

Translation

PATENT COOPERATION TREATY

PCT/EP2003/010365

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 021321WO	FOR FURTHER ACTION		See Form PCT/IPEA/416
International application No. PCT/EP2003/010365	International filing date ( <i>day/month/year</i> ) 18 September 2003 (18.09.2003)	Priority date ( <i>day/month/year</i> ) 17 December 2002 (17.12.2002)	
International Patent Classification (IPC) or national classification and IPC C21D 8/02			
Applicant THYSSENKRUPP STAHL AG			

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
a. <input checked="" type="checkbox"/> ( <i>sent to the applicant and to the International Bureau</i> ) a total of <u>4</u> sheets, as follows:
<input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
<input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
b. <input type="checkbox"/> ( <i>sent to the International Bureau only</i> ) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
4. This report contains indications relating to the following items:
<input checked="" type="checkbox"/> Box No. I Basis of the report
<input type="checkbox"/> Box No. II Priority
<input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/> Box No. IV Lack of unity of invention
<input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/> Box No. VI Certain documents cited
<input type="checkbox"/> Box No. VII Certain defects in the international application
<input type="checkbox"/> Box No. VIII Certain observations on the international application

Date of submission of the demand 16 July 2004 (16.07.2004)	Date of completion of this report 18 February 2005 (18.02.2005)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- This report is based on translations from the original language into the following language \_\_\_\_\_, which is language of a translation furnished for the purpose of:
- international search (under Rules 12.3 and 23.1(b))
  - publication of the international application (under Rule 12.4)
  - international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

- The international application as originally filed/furnished

the description:

pages \_\_\_\_\_ 1-11 \_\_\_\_\_, as originally filed/furnished  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

the claims:

pages \_\_\_\_\_, as originally filed/furnished  
 pages\* \_\_\_\_\_, as amended (together with any statement) under Article 19  
 pages\* 1-17 \_\_\_\_\_ received by this Authority on 16 July 2004 (16.07.2004)  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

the drawings:

pages \_\_\_\_\_, as originally filed/furnished  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3.  The amendments have resulted in the cancellation of:

- the description, pages \_\_\_\_\_
- the claims, Nos. \_\_\_\_\_
- the drawings, sheets/figs \_\_\_\_\_
- the sequence listing (*specify*): \_\_\_\_\_
- any table(s) related to sequence listing (*specify*): \_\_\_\_\_

4.  This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- the description, pages \_\_\_\_\_
- the claims, Nos. \_\_\_\_\_
- the drawings, sheets/figs \_\_\_\_\_
- the sequence listing (*specify*): \_\_\_\_\_
- any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.  
PCT/EP 03/10365

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	5-12, 15, 16	YES
	Claims	1-4, 13, 14, 17	NO
Inventive step (IS)	Claims		YES
	Claims	1-17	NO
Industrial applicability (IA)	Claims	1-17	YES
	Claims		NO

## 2. Citations and explanations

## 1. Reference is made to the following documents:

D1: CA 2414138 A

D2: DE 197 27 759 A

6P 881144  
US 6387192

2. On the basis of the information provided by the applicant and the Canadian Patent Office, the publication date of 2 December 2002 shown on D1 is to be considered erroneous and should be amended to the correct date, 19 December 2002. Consequently. D1 was published after the valid priority date of the present application (17 December 2002), such that it is not prior art within the meaning of PCT Rule 64.1.

3. The description of the application indicates that the essential feature of the invention is the final cold forming of cold strip with a cold forming degree of 2 to 25 %, the cold strip being in the recrystallized state prior to this final cold forming (see page 5, second paragraph, second sentence; page 6, third and fourth paragraphs; page 9, lines 4ff.)

However the wording of claim 1 "which is cold rolled to form cold strip from which the steel product is then finished by a cold forming process performed to a cold forming degree of 2 to 25 %" does not clearly refer to a recrystallizing annealing process being performed between cold rolling and cold forming; this process is first mentioned in dependent claim 9. Therefore the wording of claim 1 contradicts the description and dependent claim 9 (PCT Article 6). The embodiment mentioned on page 5, second paragraph, first sentence, (hot strip cold formed immediately into the finished product) is also not covered by the current claim 1.

4. The present application concerns a method of producing a steel product which involves the following features according to claim 1:

- (a) production of steel strip  
with a specific steel composition (a1)
- (b) cold forming of the strip
- (c) cold forming of the cold-rolled strip  
(cl) with a degree of cold forming of 2 to 25 %.

D2 discloses a high-strength, very ductile lightweight steel produced by a method comprising claimed features (a), (a1) and (b) (D2, column 1, line 46, to column 2, line 27). Cold rolling is performed to a forming degree of more than 20 %.

The further cold forming process as per features (c) and (cl) of claim 1, which can be carried out by cold rolling, does not present any clear difference

since the degree of reduction in feature (b) is vague and a cold forming degree of 25 %, as per feature (c1), corresponds only to the cold forming degree of more than 20 % specified in D2. In practice, these degrees of cold forming mentioned in D2 are far higher than 20 %, recrystallizing intermediate annealing being conventional.

In any case, claimed feature (c1) is obvious since final temper rolling by cold rolling to a degree of forming of up to 4 % is conventional. A person skilled in the art would be familiar with the increasing of the apparent limit of elasticity by temper rolling.

Therefore the method as per claim 1 is neither novel nor inventive (PCT Article 33(2) and (3)).

The further features in dependent claims 2 to 16 are either disclosed or suggested by D2. Claim 17 concerns sheet steel which does not differ from the products known from D2.